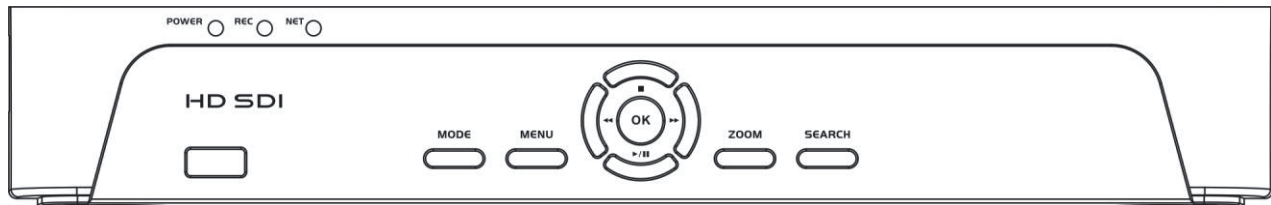


HD SDI DVR

USER'S MANUAL

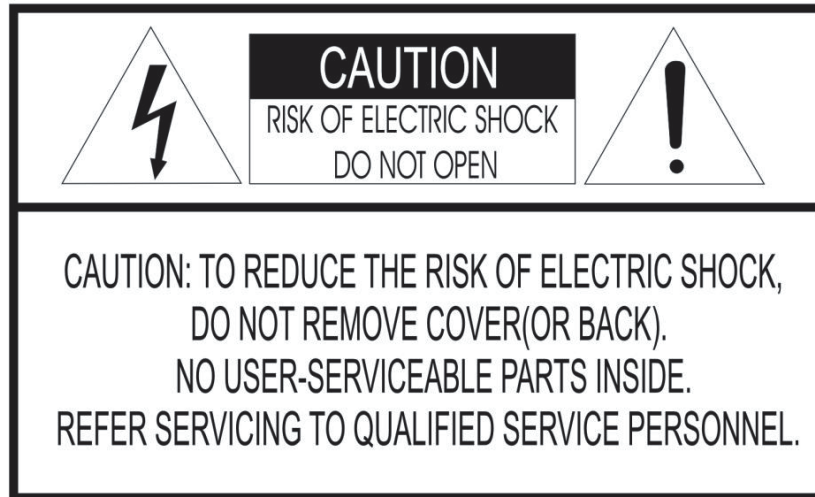


CE FC RoHS

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECTS THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

CAUTION



EXPLANATION OF GRAPHICAL SYMBOLS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

PRECAUTIONS

Safety -----

Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by the qualified personnel before operating it any further.

Unplug the unit from the wall outlet if it is not going to be used for several days or more. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.

Height and vertical linearity controls located at the rear panel are for special adjustments by qualified personnel only.

Installation -----

Do not install the unit in an extremely hot or humid place or in a place subject to excessive dust, mechanical vibration.

Cleaning -----

Clean the unit with a slightly damp soft cloth. Use a mild household detergent. Never use strong solvents such as thinner or benzine as they might damage the finish of the unit.

Retain the original carton and packing materials for safe transport of this unit in the future.

FCC COMPLIANCE STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC INFORMATION : This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION : Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.


This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

CE COMPLIANCE STATEMENT

WARNING: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been moisture, does not operate normally, or has been dropped.
15. **CAUTION THESE SERVICING INSTRUCTIONS ARE FOR USE BY QUALIFIED SERVICE PERSONNEL ONLY. TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN THE OPERATING INSTRUCTIONS UNLESS YOU ARE QUALIFIED TO DO SO.**
16. **Use satisfy clause 2.5 of IEC60950-1/UL60950-1 or Certified/Listed Class 2 power source only.**

Features

This HD SDI(serial digital interface) DVR allows users to have HD level of video surveillance with 720P & 1080P resolution both in live and playback. Unlike megapixel IP cameras and NVR, it doesn't require IP related expertise and can be installed under coaxial cabling.

- HD SDI DVR with H.264 compression
- HD video over coaxial cable : No latency & no loss of frame
- 120fps(PAL: 100fps) real time @ 720P, 60fps(PAL:50fps) @ 1080P
- HDMI, VGA and BNC video outputs
- 1 internal SATA HDD and E-SATA for external storage
- Individual channel setup for recording & network stream (resolution/frame rate)
- Event text + image notification to FTP server and E-mail address
- Easy network : UPNP (Universal plug & play) support
- User control : Up to 20 users can be generated with various access authority
- Calendar search, Time search, Event search & Thumbnail search
- CMS for multi sites monitoring
- Web view monitoring via various browser (IE, Safari, Firefox and more)
- Smart phone application (Live, PTZ, Search)

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1. Product Overview

1.1 Packing Contents

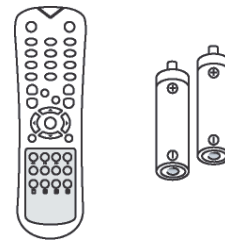
When you first open the product, please check out whether there are all contents as follows.

If any of these items is missing or damaged, contact your supplier immediately before using the product.

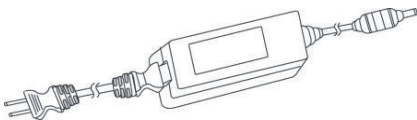
DVR product



Remote control & Battery



Power adaptor and cable



Software CD



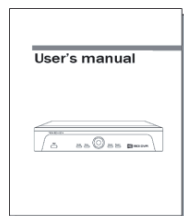
USB mouse



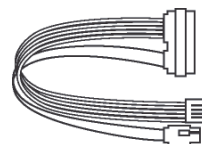
Screws



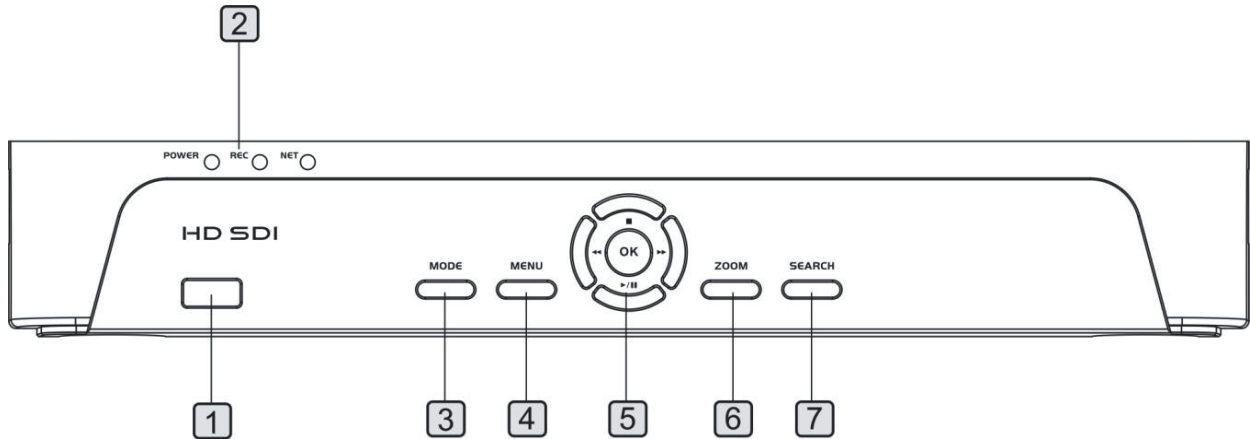
User's Manual



HDD power cable & SATA cable

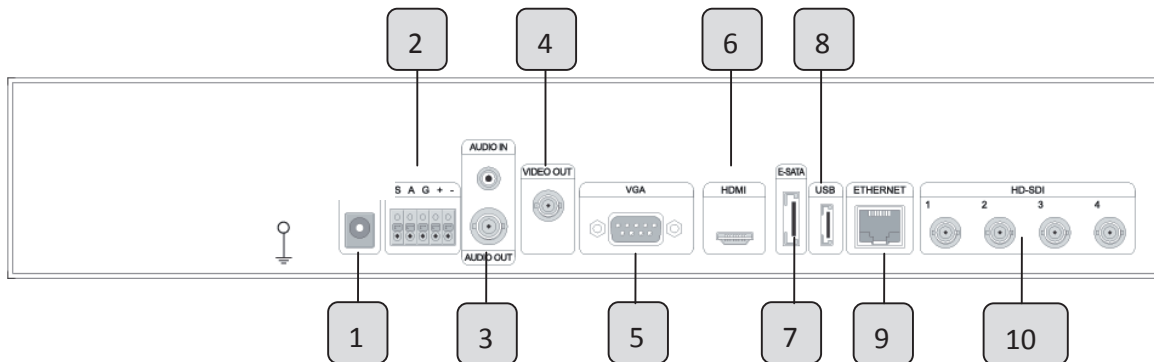


1.2 Front



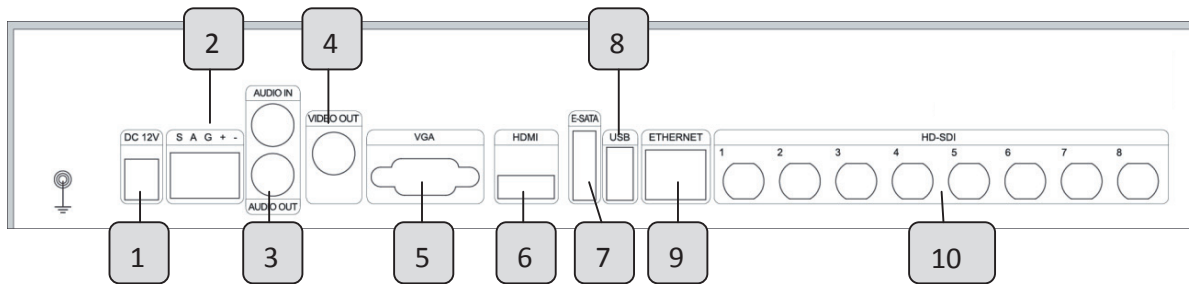
Number	Name	Function
1	USB port	Connect USB device (mouse or USB stick/HDD)
2	LED indicator	PWR : Light on when power is on REC : Light on when DVR is recording NET : Light on when a user is connected via network
3	Mode	Change screen split mode
4	Menu	Access to main menu
5	Direction & Selection keys	Select directions in menu Play, FF(fast-forward), RW(rewind), stop/pause buttons
6	ZOOM	Access directly to digital zoom mode (in live & playback)
7	SEARCH	Access directly to search menu

1.3 REAR – 4channel



Number	Name	Function
1	DC 12V	Connect power adaptor provided with the product
2	SENSOR	Sensor input port
	ALARM	Alarm output port
	RS-485	PTZ camera control by RS-485 communication
3	AUDIO IN/OUT	Connect audio in or out device (such microphone or speaker)
4	VIDEO OUT	Composite video out (BNC type)
5	VGA	VGA output
6	HDMI	HDMI ouput
7	E-SATA	E-SATA port
8	USB	Connect USB device (mouse or USB stick/HDD)
9	ETHERNET	ETHERNET port
10	HD SDI	HD SDI video input

1.3 REAR – 8 channel

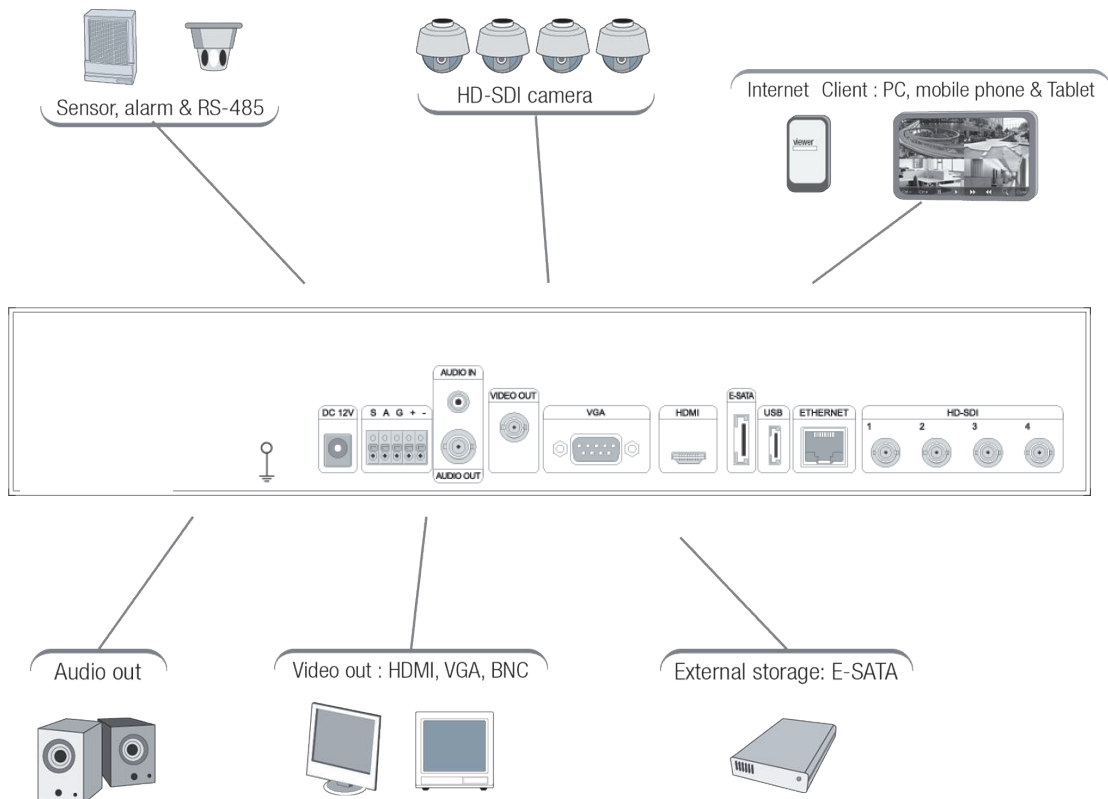


Number	Name	Function
1	DC 12V	Connect power adaptor provided with the product
2	SENSOR	Sensor input port
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	RS-485	PTZ camera control by RS-485 communication
3	AUDIO IN/OUT	Connect audio in or out device (such microphone or speaker)
4	VIDEO OUT	Composite video out (BNC type)
5	VGA	VGA output
6	HDMI	HDMI output
7	E-SATA	E-SATA port
8	USB	Connect USB device (mouse or USB stick/HDD)
9	ETHERNET	ETHERNET port
10	HD SDI	HD SDI video input

2. Installing Product

HD SDI 4ch DVR

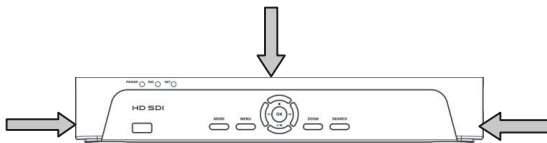
SYSTEM CONFIGURATION



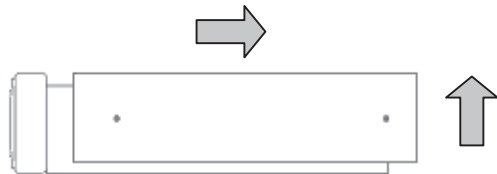
2.1. Installing HDD

- 1 internal HDD can be installed inside the product.
- If HDD was not installed in the product, please install HDD first as follows.
- Be careful not to be harmed by sharp edges of the product.

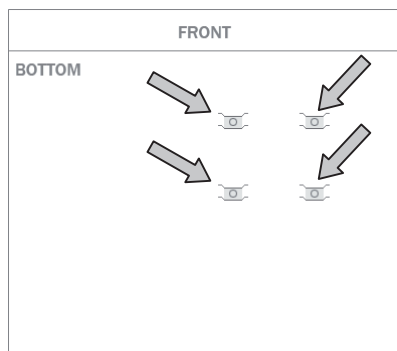
(1) Loosen screws on both sides and back to detach the product cover.



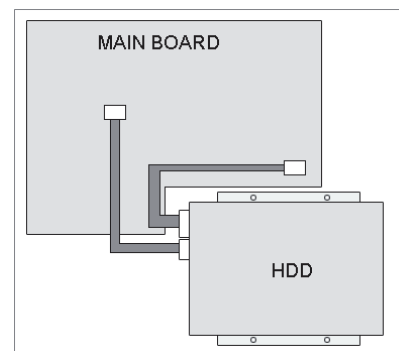
(2) Lift the end of top cover and pull out from product.



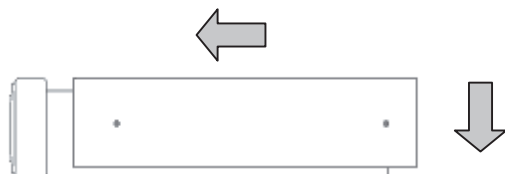
(3) In order to install HDD, you need to upside down the unit and position HDD onto the bottom and fix it with provided screws as below.



(4) After connecting HDD onto the bottom of the unit then connect SATA HDD and power cable between HDD and main board.

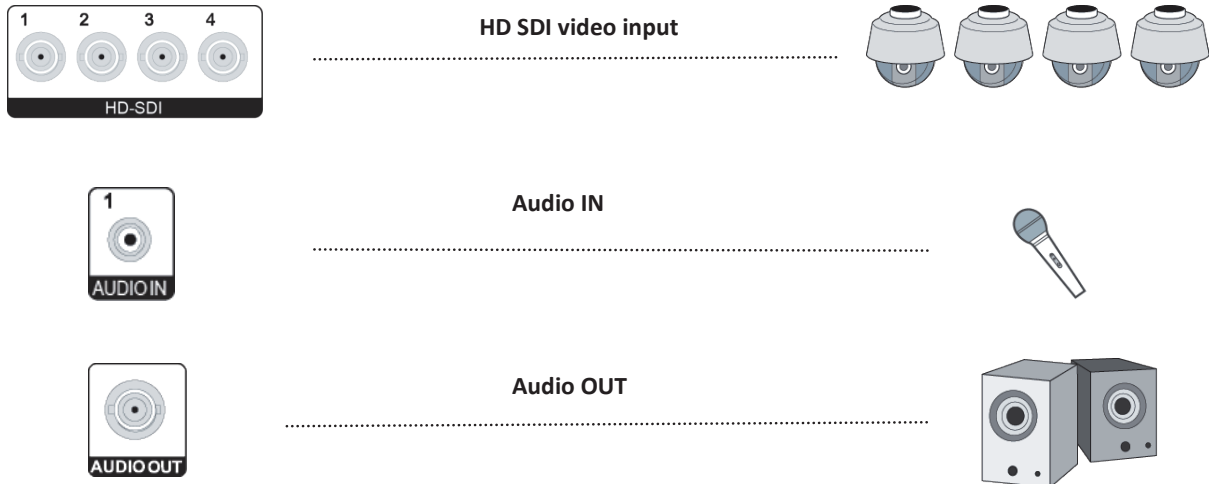


(5) Insert top cover to product as side picture. Then, tighten screws again.



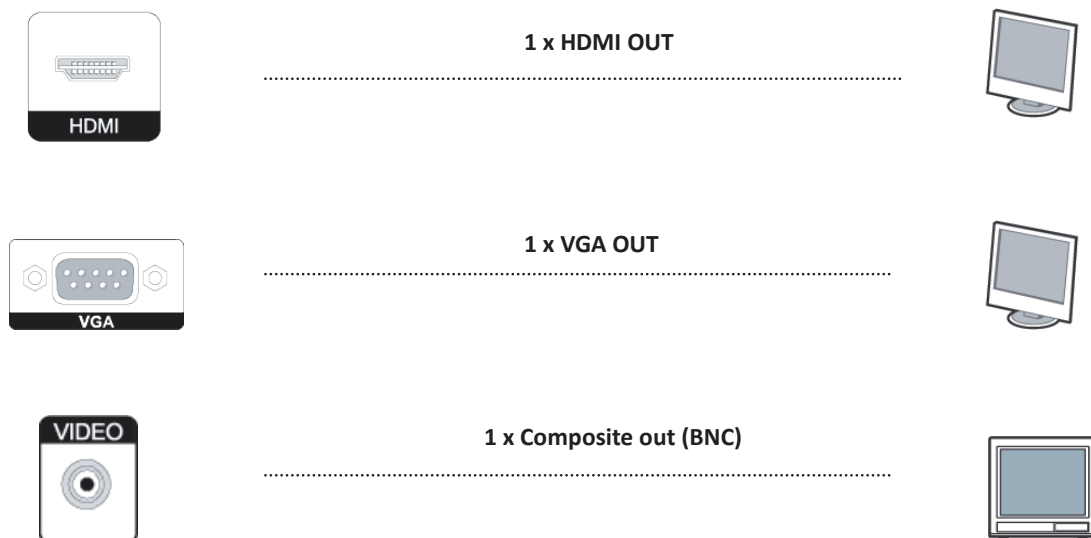
2.2. Connecting camera and audio device

- Connect coaxial cable (BNC type) into VIDEO IN port on rear of the product.
- **HD SDI cabling specification: SMPTE 292M standard, 5C-HFBS or above**
- Connect RCA cable from microphone into AUDIO IN port on rear of the product.
- Connect RCA cable into AUDIO OUT port on rear of the product and into audio device.



2.3. Connecting monitor

- Connect monitors into the video out ports of the product according to interface.



*Composite out doesn't provide OSD or menu GUI on screen.

It is recommended to use composite out just for check video.

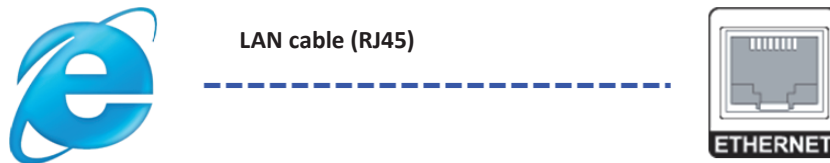
2.4. Connecting Optional device

- You can connect and control the PTZ device supporting RS-485 communication.



2.5. Connecting Network

- Connect LAN cable (RJ45) to Ethernet port on rear of the product.



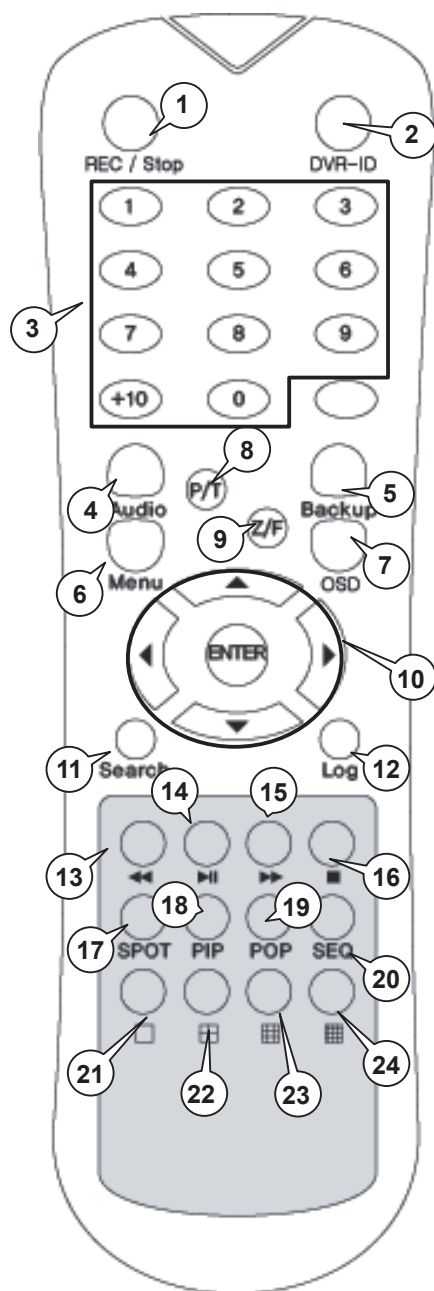
2.6. Connecting power supply

- Connect provided power cable to AC-DC adaptor.
- Connect the adaptor to DC power port on rear of the product.
- Connect AC power plug to the plug socket.



3. Controlling DVR



3.1. Remote control - Basic description




- 1) **REC** : Instant record button
- 2) **DVR ID**
- 3) **Number button** : Input channel number
- 4) **AUDIO** : Audio ON / Mute
- 5) **BACKUP** : Access directly to backup menu
- 6) **MENU** : Access to main menu
- 7) **OSD** : Show or Hide OSD
- 8) **PTZ** : Control Pan/Tilt/Zoom camera.
- 9) **Z/F**: Access to digital zoom mode
- 10) **Direction (▲, ▼, ◀, ▶) & ENTER**
- 11) **SEARCH** : Search recorded video
- 12) **LOG** : Show running status of DVR system
- 13) **◀◀** : Reverse play
- 14) **▶I** : Play or Pause during playback
- 15) **▶▶** : Fast forward play
- 16) **■** : Stop playback and go to Live mode
- 17) **SPOT** : Not Operated in this model
- 18) **PIP** : Go to PIP mode
- 19) **POP** : Enlarge specific channel in Live mode
- 20) **SEQ** : Show each camera rotation
- 21) **Full screen mode**
- 22) **Quad screen mode**
- 23) **9 Division screen mode**
Operated only for 8ch or 16 channels
- 24) **16 Division screen mode**
Operated only for 16 channels

3.2. Remote control – Additional descriptions

3.2.1. Full screen mode

- Press  button. Whenever pressing  button, screen will go to next screen.
- Press desired numeric button of remote controller.

3.2.2. Quad screen mode

- To see quad screen mode, press  button.



3.2.3. OSD Hide or Show


- Press OSD button of remote controller to appear or disappear OSD.

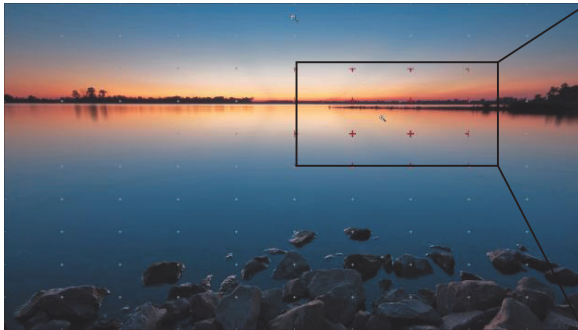


3.2.4. Sequence mode

- If you press **SEQ** button in Full screen split, screen will rotate automatically.
- Default value of channel rotating interval is 2 or 3 seconds.
- User can select changing interval value from 1 to 99 seconds.
- User can select desired channel to display

3.2.5. Digital-ZOOM

- DVR supports up to 10 times (x10) digital zoom
- Select ZOOM icon  or ZOOM button on remote control
- Using mouse, drag certain area to enlarge image
- To disable digital zoom mode, mouse right-click



Normal mode



Digital zoom mode x10

3.3. MOUSE

- System supports USB MOUSE
- Just Insert USB mouse into the product, then DVR will detect it automatically.
- Inquire your supplier if certain USB mouse doesn't work properly.

3.3.1. Change screen mode

Mouse left-click is for selecting an item on menu. Right-click in live goes to main menu.

- Double left-click on a specific channel, screen will change into full screen mode.
With double-click in full screen mode, screen will go back to previous mode.

4. Operation

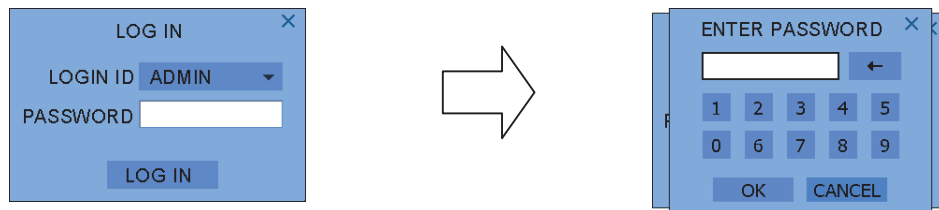
PLEASE MAKE SURE THAT THE HDD MUST BE INSTALLED AT FIRST FOR RECORDING BEFORE USING DVR.

4.1. Turning on

- Connect Power Adaptor provided with the product into power DC terminal.

4.2. Initial screen

Log-in window will pop up after booting is over.

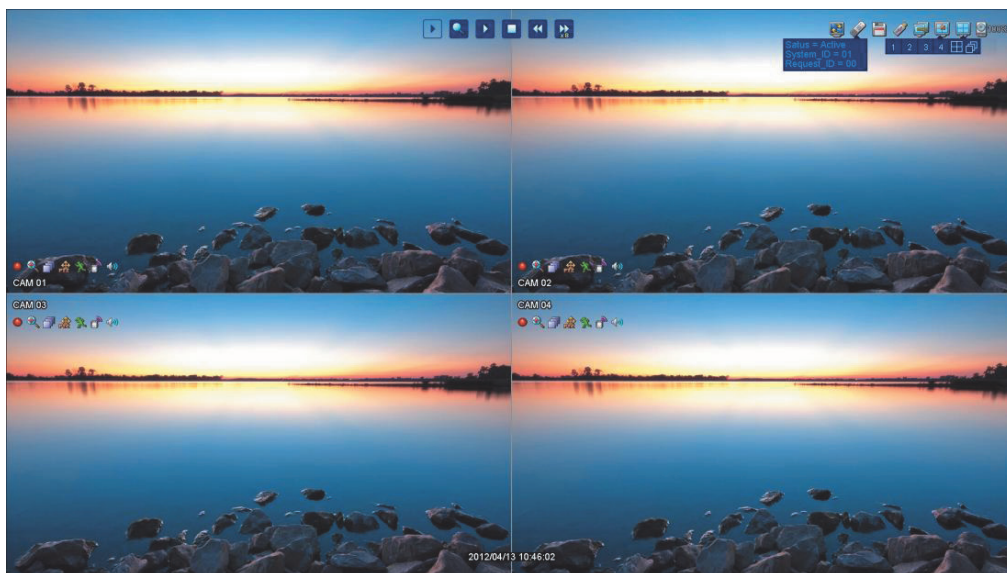


Please move the pointer into password window with mouse or up/down key of remote controller, and then press enter button in remote control or right button of mouse.

If you first start DVR, input Initial password is "0000" (4 zeros). After first login, it is recommended that you change password. In order to change password, please refer to page 38, USER.

4.3. Screen Layout



















You can see the below items according to your selection on function.



4.3.1. Icons in Live Display Mode

In Live display mode, icons will be indicated to notify the system mode or status.













Below are the icon categories, which are indicated on the monitor.

Icon for system		Icon for each channel	
	Selects specific 1ch with full screen		When Motion Detected
	Screen-Division mode		When Sensor Activated
	Start/stop Panic(manual) record		Channel with audio connected
	HDD capacity usage status		When PTZ mode entered
	When USB memory stick & HDD is inserted into DVR		When channel is recording
	When DVR is connected via network		When panic record is activated
	When DVR is not connected via network		
	System ID for remote control		
	Check auto-backup with external USB HDD (status, capacity)		
	Instant Playback (10sec, 30sec, 1min, 3min, 5min, 10min ago)		
Icon in full screen mode			
	Channel sequence mode		
	Digital x10 Zoom		

4.3.2. Controlling playback using the buttons

In search mode, the status will be shown in the upper side of screen. You can control playback using the buttons.

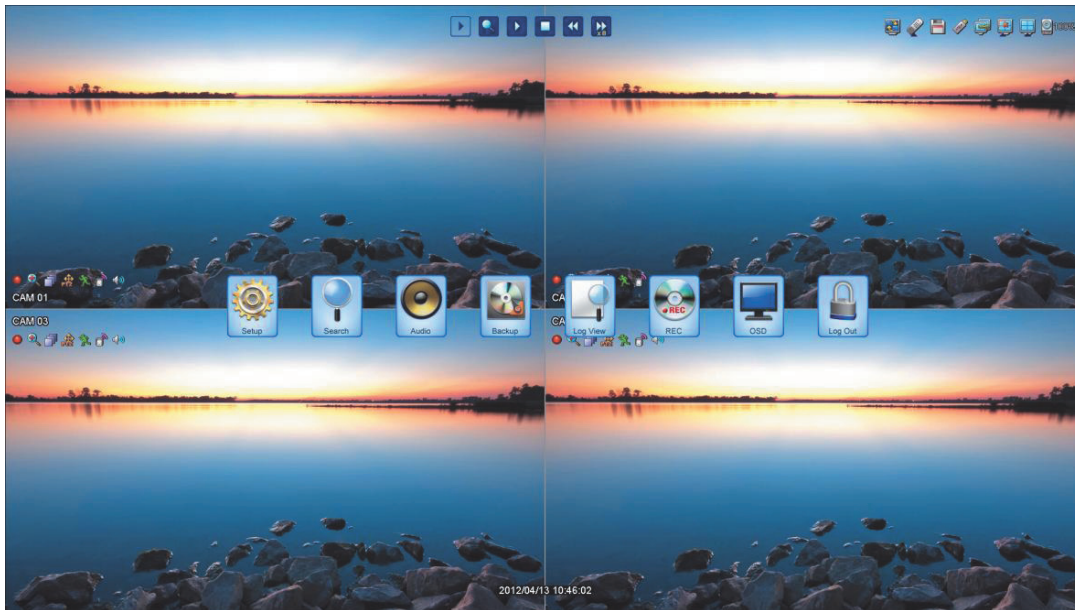


	Current status	This icon shows the current status in playback. If you select ►, the mark will be ►, The mark will be changed if you select another button Ex) If you select FF (fast-forward), ►► will be shown.
	Backward	Select backward and control speed (x2, x4, x8, x32 and x128) In pause status, this button moves frame by frame reversely
	Play	Play button. Select this button in pause mode
	Pause	Pause button. Select this button in play, rewind or FF mode.
	Fast Forward	Select fast-forward and control the speed (x2, x4, x8, x32 and x128) In pause status, this button moves frame by frame forward.
	Stop	Stop the playback and go to Live mode Menu button also stop playing.
	Search menu	Selecting this button, the Search sub-menu will pop up
	Digital zoom	Digital zoom button in playback. Select this button to 1ch full screen mode
	Play speed	Indicates speed of rewind or fast-forward
	Backup	Access to backup function
	Bookmark start	During playback, click this button and starting time is saved for bookmark list
	Bookmark stop	Click this button and bookmark ending time is saved for bookmark list

5. MENU

5.1. Access to menu

Press MENU button on front keys/remote control or right-click using mouse.



Before access to main menu, DVR asks you login ID and password.

When you first start DVR, input ADMIN for ID and 0000 for password as Initial ID & password are ADMIN & 0000 respectively.

5.2. SETUP

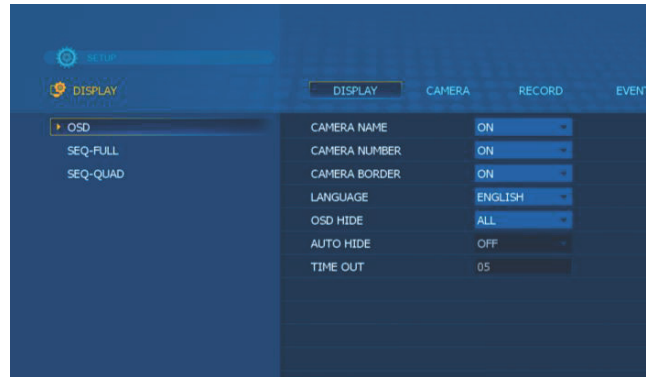
*Sub menus of SETUP

DISPLAY	CAMERA	RECORD	EVENT	STORAGE	SYSTEM
OSD	GENERAL	PARAMETER	MOTION	HDD FORMAT	CONFIG
SEQ-FULL	PTZ	SCHEDULE	SENSOR	HDD SMART	TIME
SEQ-QUAD	PRESET	GENERAL	VLOSS	AUTO-BACKUP	INPUT DEVICE
(Only 8ch support)	TOUR		E-MAIL	NETWORK	USER
			FTP		UPGRADE
			E-MAIL SCHEDULE		TURN OFF DVR
			ALARM SCHEDULE		
			FTP SCHEDULE		
			MISC	SET UP	
				STREAM	
				DDNS	
				MOBILE	

5.2.1. DISPLAY

Configurations related to OSD can be made in OSD menu.

Sequence patterns of main and spot monitors can be programmed in LIVE-SEQ menu.



5.2.1.1. OSD

Select OSD items that displays on monitor and select language.

CAMERA NAME	ON
CAMERA NUMBER	ON
CAMERA BORDER	ON
LANGUAGE	ENGLISH
OSD HIDE	ALL
AUTO HIDE	OFF
TIME OUT	05

- **CAMERA NAME** - Show camera name on screen.
- **CAMERA NUMBER** – Show each camera numbers on the screen.
- **CAMERA BOARDER** – Show outline of channel.
- **LANGUAGE** – Select OSD language.
- **OSD HIDE** – Option: ALL, time bar or icon
- **AUTO HIDE** – Hide ALL, time bar or icon automatically after time-out (minute)
- **TIME OUT** – AUTO HIDE after selected time (minute)

5.2.1.2. SEQ-FULL

LIVE SEQUENCE		
SEQ	CH	TIME
1	01	02
2	02	02
3	03	02
4	04	02

DEFAULT ALL TIME 02

- **LIVE SEQUENCE**: Set order of sequence channel and dwell time by second for main video out.
- **DEFAULT**: Go back to initial value
- **ALL TIME**: Apply same time for all channels
- Maximum time is 99 second

5.2.1.3. SEQ-QUAD (Only for 8ch DVR)

SEQ	CH1	CH2	CH3	CH4	TIME
1	01	02	03	04	03
2	05	06	07	08	03

- **SEQ:** DVR supports 2 sets of quad split sequence.
SEQ 1 is CH1~CH4 and SEQ 2 is CH5~CH8.
- Sequence time can be set by second and maximum time is 99 second.

5.2. 2. CAMERA

General camera configurations such as camera name, color and covert can be made.

Private zone on certain cameras can be designated.

PTZ configurations can be made.



5.2.2.1. GENERAL

CH	NAME	COVERT	AUDIO
1	CAM01	COVERT OFF	CH-01
2	CAM02	COVERT OFF	<NONE>
3	CAM03	COVERT OFF	<NONE>
4	CAM04	COVERT OFF	<NONE>
5	CAM05	COVERT OFF	<NONE>
6	CAM06	COVERT OFF	<NONE>
7	CAM07	COVERT OFF	<NONE>
8	CAM08	COVERT OFF	<NONE>

- **NAME:** Input name of each camera using virtual keyboard. Maximum 15 digits in English can be used.
- **COVERT:** Show or hide camera image in live mode
ON: Hide camera, OFF: show camera
- **AUDIO:** Select connected audio channel

How to input letters or numbers on TEXT INPUT box

- Move the pointer to the name box (Blank) and click.
- Click letters or numbers with direction button.
- Click OK button after you complete input.

5.2.2.2. PTZ

CH	ID	PROTOCOL	BAUD
1	000	PELCO_D	4800
2	000	PELCO_D	4800
3	000	PELCO_D	4800
4	000	PELCO_D	4800

- **ID:** Input ID of connected PTZ camera
- **PROTOCOL:** Select protocol type of PTZ camera
- **BAUD:** Select baud rate of PTZ camera

This information can be found in manual of PTZ camera.

5.2.2.3. PRESET

CAMERA 1		PAGE 1	
#	NAME	#	NAME
1	PTZ01 SET CLE	9	PTZ09 SET CLE
2	PTZ02 SET CLE	10	PTZ10 SET CLE
3	PTZ03 SET CLE	11	PTZ11 SET CLE
4	PTZ04 SET CLE	12	PTZ12 SET CLE
5	PTZ05 SET CLE	13	PTZ13 SET CLE
6	PTZ06 SET CLE	14	PTZ14 SET CLE
7	PTZ07 SET CLE	15	PTZ15 SET CLE
8	PTZ08 SET CLE	16	PTZ16 SET CLE

- **CAMERA:** Select camera to set up preset position
- **PAGE:** Go to next page
- **CLEAR ALL:** Cancel all saved presets.

- ① Select camera.
- ② Select "SET" button.
- ③ PTZ control screen of the camera will appear.
- ④ Move pan, tilt, zoom in/out to desired point.
- ⑤ Click **Advance** icon or Press ENTER Key in remote controller to save.
- ⑥ Click any other position on screen by mouse or press **MENU** Key to cancel.

If you like to cancel the setting, please click the CLE icon of the channel will be cleared.

If you click "CLEAR ALL" button, all value of channels will be cleared.

◆ **NOTE:** Before using this function, please make sure that camera supports preset.

Total 64 preset points can be saved to each channel.

You can enter position name to each saved preset position.

5.2.2.4. TOUR

CAMERA 1			LIST 1		
#	PRESET	SEC	#	PRESET	SEC
1	OFF	03	9	OFF	03
2	OFF	03	10	OFF	03
3	OFF	03	11	OFF	03
4	OFF	03	12	OFF	03
5	OFF	03	13	OFF	03
6	OFF	03	14	OFF	03
7	OFF	03	15	OFF	03
8	OFF	03	16	OFF	03

CLEAR ALL

- **CAMERA:** Select camera to set up scan point
- **LIST:** Create another SCAN list
- **PRESET:** Select desired preset position
- **CLEAR ALL:** Cancel all saved scan points

◆ **NOTE**

In TOUR menu, you can set up PTZ tour route(SCAN-LIST) using saved PRESET position.

You can create 4 scan lists for each camera. You should setup PTZ protocol and PRESET before setting Scan-List.

Maximum 4 SCAN lists can be set and 1 SCAN list can be composed of up to 16 preset points

CAMERA 1			LIST 1		
#	PRESET	SEC	#	PRESET	SEC
1	OFF	03	9	OFF	03
2	OFF	03	10	OFF	03
3	OFF	03	11	OFF	03
4	ON	03	12	ON	03
5	OFF	03	13	OFF	03
6	OFF	03	14	OFF	03
7	OFF	03	15	OFF	03
8	OFF	03	16	OFF	03

CLEAR ALL

➤ **Example**

If TOUR is set as left,

- CAMERA 1 will move to saved positions as below,
- PTZ04 (stays for 3sec) >> PTZ12 (stays for 3sec) >>
PTZ04 (stays for 3 sec) >> PTZ12 (stays for 3 sec) >>
PTZ04 (stays for 3 sec) >>.....

5.2.3. RECORD

Recording setup such as parameter, schedule and pre/post recording can be made in RECORD menu.

CH	RESOLUTION	EVENT	RECORD	CONTINUOUS
1	1280x720	NORMAL	30	NORMAL 30
2	1280x720	NORMAL	30	NORMAL 30
3	1280x720	NORMAL	30	NORMAL 30
4	1280x720	NORMAL	30	NORMAL 30

ALL NORMAL Max NORMAL Max

5.2.3.1. PARAMETER



■ Recording resolution

CAMERA INPUT	RESOLUTION
720P	1280 X 720
1080P	1920 X 1080

- Resolution
 - Recording resolution is determined automatically by HD SDI camera input and cannot be changed.
- EVENT
 - Select the recording picture quality and frame rate for EVENT occasions.
 - Event occasions mean when motion is detected or alarm is triggered.
 - Each channel can have separate picture quality and frame rate.
- CONTINUOUS
 - Select the recording picture quality and frame rate for continuous recording.
 - Each channel can have separate picture quality and frame rate
 - The frame rate in CONTINUOUS cannot exceed that of Event mode.
If the frame rate of EVENT is set up as 8, and that of CONTINUOUS mode cannot exceed 8.
- ALL
 - Apply the same picture quality & frame rate for all channels.

◆ **NOTE: When connecting 720P camera, please make sure you turn off DVR and hook camera cable to DVR**
Otherwise, the unit will not recognize 1280x720 resolution and cause recording problem.

◆ **NOTE: The higher recording quality, the more HDD drive space needed.**

Record Quality	Picture Quality	Disk Space Need
BASIC	Low	Least
NORMAL	Fair	Medium
HIGH	Good	Big
BEST	Excellent	Most

5.2.3.2. SCHEDULE

DVR always records according to schedule.

Please make sure to set recording schedule during installation

- **REC OFF:** No record, just monitor during selected hours.
- **CONTINUOUS REC:** DVR records continuously during selected days and hours.
- **EVENT REC:** DVR records only when Motion/Sensor/Video Loss is triggered during selected hours.
- **CONTINUOUS + EVENT REC:** DVR records continuously or by events during selected days and hours.

If there is no event, it will record video as continuous mode and

If there is event, it will record video as event mode as you set.

If you use mouse, you can select them by drag function.

◆ **NOTE:** Recording schedule can be set by hour.

The time in the first column of each line means 00:00 ~00:59.

5.2.3.3. General

- **OVERWRITE:** When HDD gets full, the oldest record data will be erased and replaced (overwritten) by new data.

ON: Use OVERWRITE, OFF: Not use OVERWRITE

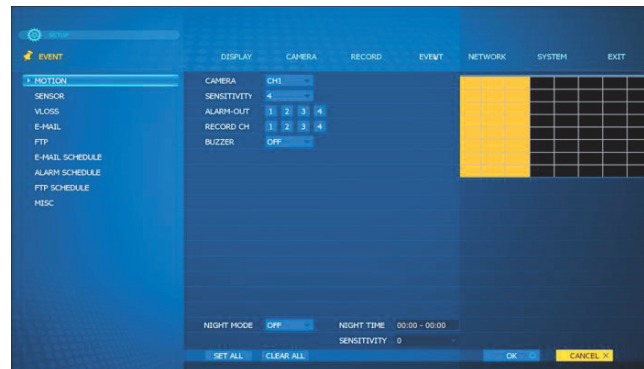
If it is set OFF, DVR stops recording when HDD gets full.

- **AUTO-DELETE:** HDD only keeps the data of selected

- **PRE-REC TIME:** Recording time before events (0~5 sec)
- **POST-REC TIME:** Recording time after events (0~120 sec)
- **WATER-MARK:** Generate water-mark in recording data Authenticity can be verified in backup-viewer software.

5.2.4. EVENT

Configurations regarding events can be made.



5.2. 4.1. MOTION



- **CAMERA:** Select camera for motion setup
- **SENSITIVITY:** Adjust motion sensitivity from 0~9
The higher number, the more sensitive detection
- **ALARM-OUT:** Check alarm-out 1 if you wish to trigger alarm out 1 when motion is detected.
- **RECORD CH:** Select channels which will record when motion is detected.
- **BUZZER:** Set ON/OFF for buzzer when motion is detected
- **NIGHT MODE:** Set separate sensitivity for day and for night. This option can be used in order to avoid false motion event caused by camera noise at night.
- **SET ALL:** All area (8x8 Grid) will be enabled for motion detection.
- **CLEAR ALL:** All area (8x8 Grid) will be disabled for motion detection.

5.2.4.2. SENSOR

SENSOR	TYPE	RECORD	ALARM-OUT	BUZZER
1	NO	1 2 3 4 5 6 7 8	1	OFF

- **TYPE:** Select NO(Normal open)/NC(Normal close)
- **RECORD:** Select camera channels which will record when sensor is activated.
- **ALARM-OUT:** Check alarm-out 1 if you wish to trigger alarm out 1 when sensor is activated.
- **BUZZER:** Set ON/OFF for buzzer when sensor is activated.

5.2.4.3. VLOSS

CH	ALARM-OUT	BUZZER
1	1	OFF
2	1	OFF
3	1	OFF
4	1	OFF
ALL	1	OFF

- **ALARM-OUT:** Check alarm-out 1 if you wish to trigger alarm out when video loss occurs.
- **BUZZER:** Set ON/OFF for buzzer when video loss occurs.
- **ALL:** Apply the same settings to all channels.

5.2.4.4. E-MAIL

DVR can send e-mail notification when events occur.

EVENT E-MAIL	OFF	<input type="checkbox"/> IMAGE
EVENT TYPE	<input type="checkbox"/> MOTION	<input type="checkbox"/> POWER ON
	<input type="checkbox"/> SENSOR	<input type="checkbox"/> HDD ERROR
	<input type="checkbox"/> VLOSS	
SENDER ID		
E-MAIL ADDRESS 1		
E-MAIL ADDRESS 2		
E-MAIL ADDRESS 3		
SECURE TYPE	NORMAL(25)	
SERVER NAME		
ID		
PASSWORD		

- **EVENT E-MAIL:** Select ALL time or SCHEDULE for email notification
- **IMAGE:** Check the box then DVR sends image as well as text when events occur.
- **EVENT TYPE:** Select event type from MOTION, POWER ON, SENSOR, HDD ERROR, VLOSS
- **SENDER ID:** DVR sends email with this name
- **E-MAIL ADDRESS:** Input up to 2 email addresses.
➤ Example: anyone@gmail.com
- **SECURE TYPE**
 - NORMAL: Standard email transfer, Port 21
 - SSL(465): Secure email transfer, Port 465
 - TLS(587): Secure email transfer, Port 587
- **SERVER NAME:** In case of using SSL or TLS, input SMTP server name
- **ID/PASSWORD:** In case of using SSL or TLS, input ID and password of SMTP server

- ◆ **NOTE:** You can find SMTP server information usually from POP3/SMTP, IMAP/SMTP setup menu of the server. Otherwise, you need to ask the server manager.

- **EXAMPLE:** If you have an account in Gmail, Input smtp.gmail.com in SERVER NAME and ID/PASSWORD of your Gmail account. If normal is selected, you don't need to input in SERVER NAME and ID/PASSWORD.
- **EXAMPLE:** Email message

From : DVR@dvr.com
To : anyone@gmail.com
Sent: Friday, July 24, 2011 6:11 PM
Subject: EVENT MESSAGE
 [2011/07/24 18:10:11] [testdvr/192.168.001.121] MOTION ch 1 ON

5.2.4.5. FTP

DVR can send text + image to designated FTP server when events occur.

FTP: OFF

EVENT TYPE: ☐ MOTION ☐ POWER ON
☐ SENSOR ☐ HDD ERROR
☐ VLOSS

FTP Address:
 Account ID:
 Account PW:
 Directory Name:
 PORT: 0021

FTP: TEXT

EVENT TYPE: ☐ MOTION ☐ POWER ON
☐ SENSOR ☐ HDD ERROR
☐ VLOSS

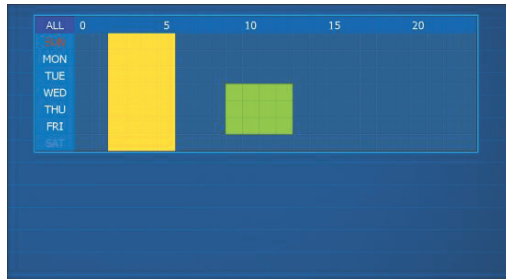
FTP Address: dvr-update.com
 Account ID: abcd
 Account PW: 1234abcd
 Directory Name: DIR
 PORT: 0000

- **FTP:** Select OFF, TEXT or TEXT + IMAGE
- **EVENT TYPE:** Select event type to send to FTP.
- **FTP address:** Input IP address or domain name of FTP server.
- **Account ID:** Input ID to access FTP server
- **Account PW:** Input password to access FTP server
- **Directory Name:** Directory of FTP server that will save transferred text or image
- **PORT:** Input port number to use transfer to FTP
 FTP normal uses port 21.

5.2.4.6. E-MAIL/ALARM/FTP SCHEDULE

Make a schedule for e-mail transfer, alarm-out and ftp transfer for events.

Schedule can be arranged by day and by hour. Only during checked day and time, e-mail will be sent and alarm-out will be activated and ftp transfer will work.



5.2.4.7. MISC

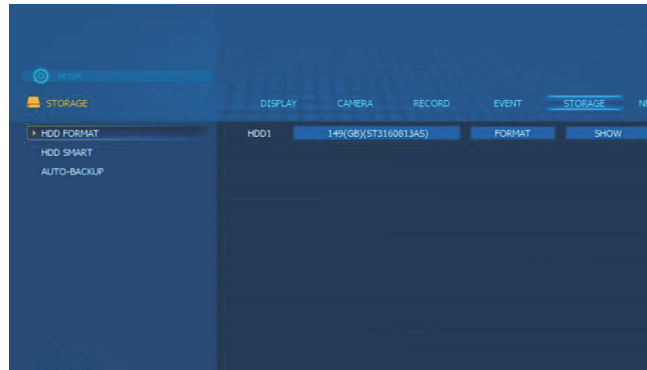
DWELL TIME	0005	SEC (0-9999)
ALARM OUT	NO	ALARM OFF
EVENT POPUP	OFF	
POPUP OUT	NORMAL	
POPUP SEQUENCE TIME	03	SEC (1-60)

- **E-Mail schedule:**
Select day & hour (Mouse drag/drop)
- **Alarm-out schedule:**
Select day & hour (Mouse drag/drop)
- **FTP schedule:**
Select day & hour (Mouse drag/drop)
- **DWELL TIME:** Dwelling time for alarm-out
Maximum 9999 seconds.
- **ALARM OUT:** Select N/C or N/O.
To deactivate, click ALARM OUT
- **EVENT POPUP:** Channel where event occurs pops up in full screen mode.
- **POPUP OUT :** Only support NORMAL (Main video out: VGA and HDMI)
POPUP SEQUENCE TIME: Popup dwelling time

Note: if event occurs during dwell time of another event, dwell time will be ignored and newer event will pop up

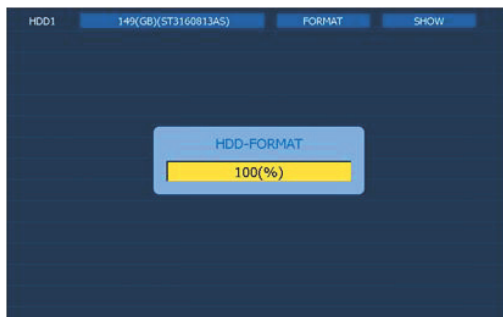
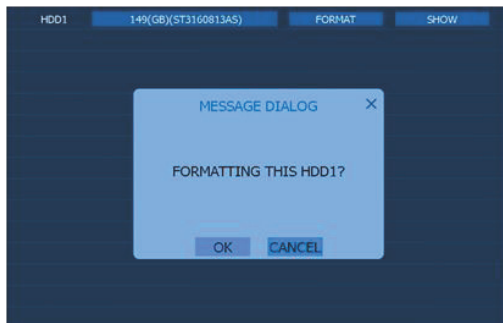
5.2.5. STORAGE

1 internal hard drives can be installed in the unit. Additionally 1 E-SATA hard drive can be attached to the unit using E-SATA port in the rear.



5.2.5.1. HDD FORMAT

HDD must be formatted when installed in order to record properly.

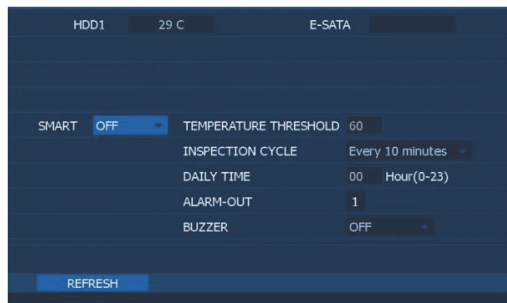


- New HDD must be formatted before using it with DVR
- When format is completed, DVR will reboot automatically.
- Time to format can be different depending on size of HDD but it usually takes a few minutes to complete.
- SHOW: indicates file list of HDD
- E-SATA information is always indicated after internal hard drive(s).

5.2.5.2. HDD SMART

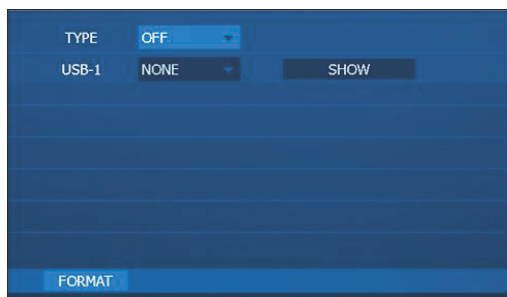
Temperature of HDD can be checked.

If the temperature gets higher than certain point, DVR can notify user of that.



- Select ON in **SMART**
- **TEMPERATURE THRESHOLD**
Set the limit temperature of HDD
- **INSPECTION CYCLE**
Set the interval to check HDD temperature
Options: Every 10 minutes, Hourly and Daily
- **DAILY TIME**
In case you select “Daily” in inspection cycle, set time to check HDD temperature during a day.
- **ALARM OUT**
Select alarm out ports which will activate when HDD temperature exceeds over set temperature threshold.
- **BUZZER:** Select ON/OFF of buzzer sound when HDD temperature exceeds over set temperature threshold.

5.2.5.3. AUTO-BACKUP



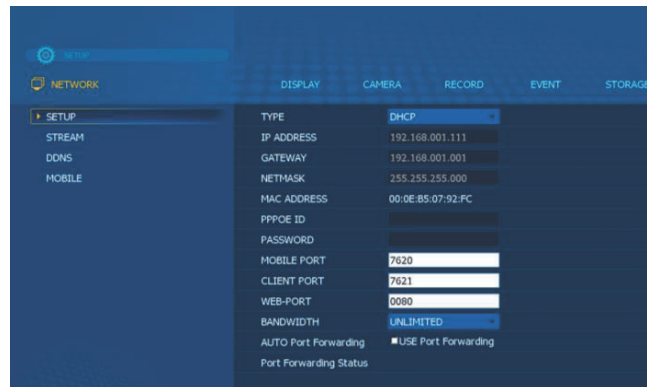
- TYPE
Once **USB HDD** is connected to DVR, **HDD status** is indicated. Recording file list can be checked by selecting **SHOW**.

EXTEND: When internal HDD(s)(including E-SATA HDD) gets full, HDD starts to overwrite and eldest data will be erased from internal HDD and saved in USB HDD at the same time.

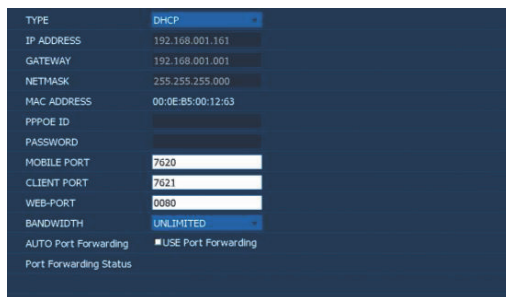
MIRROR: Same data of internal HDD will be recorded in USB HDD

INTERNAL HDD: To use this function, internal HDD and E-SATA must be installed. Internal HDD and E-SATA will have the same data as RAID 1.

5.2.6. NETWORK



5.2.6.1. SETUP



- **TYPE:** Select network type among STATIC, DHCP and ADSL(PPPOE)
- **DHCP:** DVR automatically gets IP address, gateway and subnet mask.
- **STATIC:** Check your network environment and input IP address, gateway and subnet mask manually.
- **ADSL:** Input PPPOE ID and PASSWORD.
- **MOBILE PORT:** Port that is used for jpeg transfer
Smart phone application uses this port.
- **CLIENT PORT:** Port that CMS uses.
- **WEB-PORT:** Port that web viewer uses.
- ◆ **All the ports numbers can be input from 0001~9999.**
Each port must not have identical port numbers.
- **BANDWIDTH:** Control up to unlimited bandwidth
- **AUTO port forwarding:** Check port forwarding for network connection from outer network.
- ◆ **Router itself should support UPNP function**

5.2.6.2. STREAM

When dual stream is activated, DVR sends separate network stream of resolution, picture quality and frame rate. When dual streaming is set OFF, DVR should send stream according to resolution, picture quality and frame rate set in recording parameter.

According to HD SDI video input resolution (1080P or 720P), 1080P supports 960*540 & 480*270 for network resolution and 720P supports 640*360 & 320*180 for network resolution.



Resolution	Normal	Frame
960*540	Basic	1, 2,
480*270	Normal	4, 8,
640*360	High	15, 30
320*180	Best	

5.2.6.3. DDNS

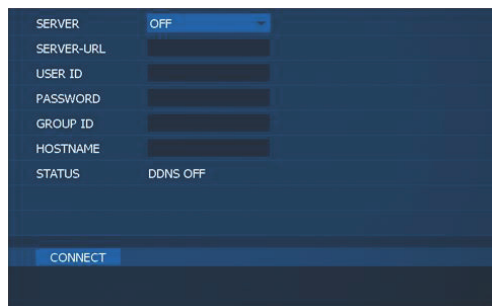
DVR supports DDNSCCTV.COM, [DDNSCCTV\(AUTO\)](http://DDNSCCTV(AUTO)), DYNDNS.COM and NO-IP.COM for DDNS connection.

- Using DDNSCCTV.COM(AUTO)

If you choose DDNSCCTV.COM(AUTO) in SERVER, DVR creates HOST NAME using DVR using MAC address of DVR.

- 1) Click DDNSCCTV.COM(AUTO) in SERVER
- 2) Then USER ID, PASSWORD and HOST NAME are generated automatically using MAC address.
- 3) USER ID, PASSWORD and HOST NAME are formed in DVR + last 6 letters of MAC address

EX) If MAC address of DVR is 00:0E:B5:02:8A:5F, USER ID & PASSWORD are dvr028a5f and HOST NAME is dvr028a5f.ddnscctv.com



- Using DDNSCCTV.COM, DYNDNS.COM or NO-IP.COM
 - **SERVER:** Select DDNS server
 - **USER ID:** Input DDNS server account ID
 - **PASSWORD:** Input DDNS server account password
 - **HOST NAME:** Input domain(host) name that you made at DDNS server
 - **CONNECT:** Click the button to check connection to DDNS server. If connection is ok, STATUS shows DDNS OK

- ◆ **NOTE:** To use DDNS function, you must first go to www.ddnscctv.com, www.dyndns.com or www.no-ip.com on PC and create an account and make a domain (host) name.
- ◆ **NOTE:** If DDNS connection fails, check if all information has been input correctly (especially USER ID and PASSWORD) and check network status.

◆ How to register DDNSCCTV

- Input <http://ddnscctv.com> on web browser of PC to use DDNS service before you make configuration on DVR

- Click Registration button if you don't have an account.
- Fill in E-mail address, password, name and etc. Then, click Submit button

- Input domain name you wish to create and click Request Domain button.
- Domain name can be created with combinations of alphabets, numbers and marks.
(You must not put a mark on first letter of domain name.)
- Click Logout button after domain name has been successfully registered.
- You can sign in with E-mail and password you registered.

◆ DDNS setup on DVR

SERVER	DDNSCCTV.COM
SERVER-URL	DDNSCCTV.COM
USER ID	abc@mail.com
PASSWORD	abc1234
GROUP ID	
HOSTNAME	abc.ddnsctv.com
STATUS	DDNS OK
CONNECT	

- ① Move to SETUP → NETWORK → DDNS
- ② Select DDNSCCTV.COM (3 options : DDNSCCTV.COM, NO-IP.COM, DYNDNS.COM)
- ③ Input E-mail address & password you registered at <http://ddnsctv.com> on USER ID and PASSWORD.
- ④ Input domain name you registered at <http://ddnsctv.com> on HOSTNAME.

◆ DDNS use

Input domain name you registered on web browser.

➤ Example: <http://abc.ddnsctv.com>

For WAN connection, DVR web port/client port should be forwarded. (Port-forwarding)

In this case, input : (colon) web port.

➤ Example: If web port is set 1000 on DVR, <http://abc.ddnsctv.com:1000>

5.2.6.4. MOBILE

When connecting to DVR remotely from mobile devices, DVR sends out JPEG stream.

Resolution & frame rate of JPEG stream can be set up. Resolution options are 960 x 540 and 480 x 270 in case of 1080P camera. For 720P camera, resolutions of 640 x 360 and 320 x 180 are available.

CH	RESOLUTION	
1	960x540	4
2	640x360	4
3	960x540	4
4	960x540	3
5	480x270	4
6	480x270	3
7	320x180	4
8	320x180	4

* JPEG stream frame rate by resolution

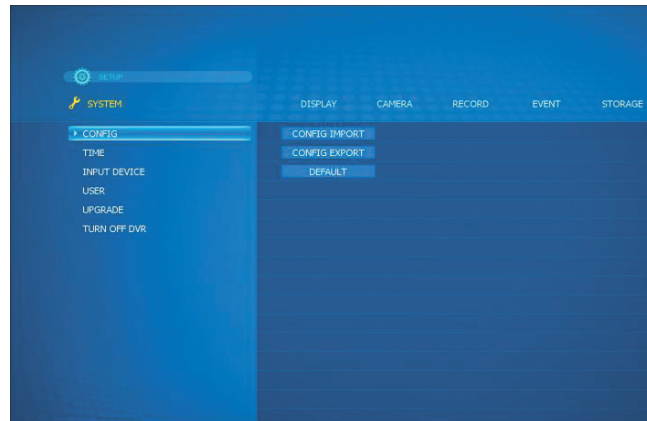
Resolution	960x540 (640x360)	480x270 (320x180)
Ch1 ~Ch4	Max. 15fps in total	Max. 30fps in total
Ch5 ~Ch8	Max. 15fps in total	Max. 30fps in total

Maximum frame rate that can be set by resolution is as the table above. For 960x540(or 640x360), total fps is 15fps from channel 1 to channel 4. The same 15fps also applied from channel 5 to channel 8.

5.2.7. SYSTEM

Configurations for time, user and etc. can be made.

Software version can be checked and upgrade process can be made.

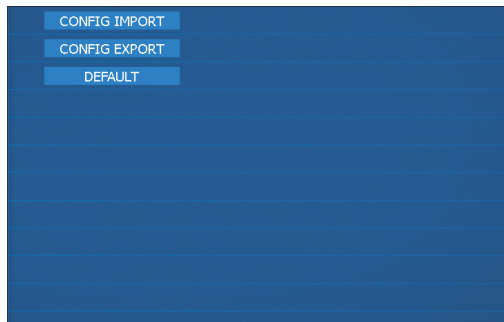


5.2.7.1. CONFIG

System setting values from one DVR can be copied to others.

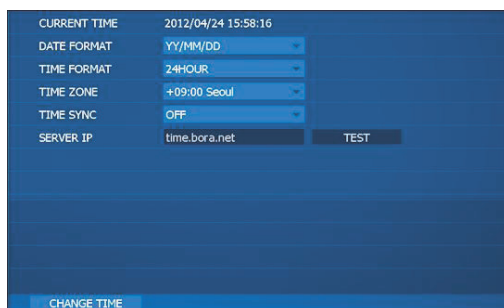
Insert USB device into USB port of DVR to import (load) or export (save) the setting values.

CONFIG IMPORT & CONFIG EXPORT can be used to make several DVRs to have the same setting values.



- **CONFIG IMPORT:** Load the saved configuration file from USB device
- **CONFIG EXPORT:** Save the configuration file to USB device to copy it to another DVR
- **DEFAULT:** Change all configuration values back to factory default.

5.2.7.2. TIME



- **DATE FORMAT:** Select date format
YY/MM/DD MM/DD/YY DD/MM/YY
- **TIME FORMAT:** 24HOURS or AM/PM
- **TIME ZONE:** Select time zone of your location
- **TIME SYNC:** System time will be synchronized with selected time server if it is turned ON.

- **SERVER IP:** Input IP or domain name of time server.

Click TEST if connection with time server is OK.

DVR checks time server for correct time every 1 hour.

- ◆ Example: time.bora.net (OK),
<http://time.bora.net> (NOT OK)

- **CHANGE TIME:** Change time manually

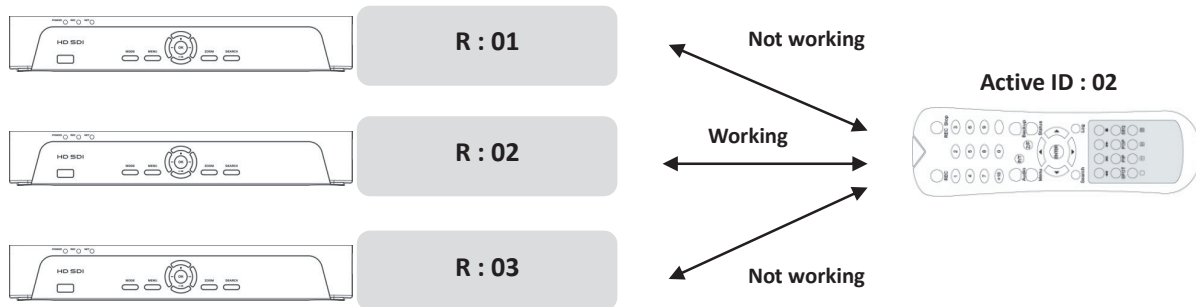
5.2.7.3. INPUT DEVICE

SYSTEM-ID	00
KEYBOARD	NONE
KEY-TONE	OFF

- **SYSTEM-ID:** Input the number that you want to register in this DVR.
- **KEYBOARD:** DVR system can be connected with control keyboard.
- **KEY-TONE:** Beep whenever button is pressed if ON is selected.

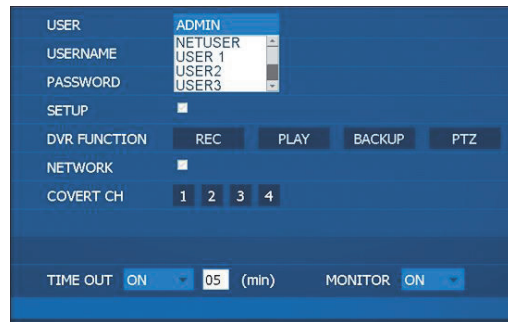
◆ How to set up System-ID status

- System-ID status shows whether the system will accept key from remote-control or not.
- SYSTEM-ID is used when user operates several systems with one remote control.
SYSTEM- ID will be displayed when SYSTEM- ID is other than 0(zero).
- By using DVR-ID button of remote control, remote control can be matched with SYSTEM- ID, or if SYSTEM- ID is 00, system-ID is not displayed and system accept key from remote controller.
- If SYSTEM- ID color is Yellow, the system accepts remote-control key input.
- If SYSTEM- ID and Active-ID are not matching, SYSTEM- ID color will be Red and the system does not accept remote-controller key input.(No beep)
- How to match SYSTEM- ID by remote controller
 - (1) Press DVR-ID button of remote controller.(You can hear short double-beep.)
 - (2) Then, press desired System-ID by using 2 numeric button. (E.g. 02 or 03 or 01)



5.2.7.4. USER

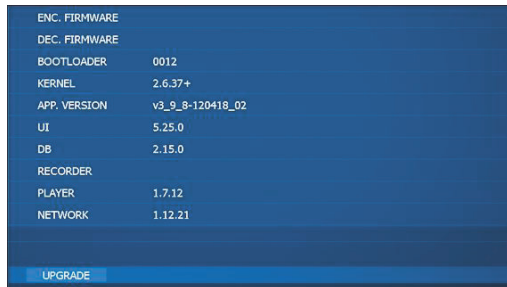
There are 2 fixed users, ADMIN & NETUSER. Their name & access authority cannot be changed. Additionally, you can create up to 20 more users and give different access authority level to each user.



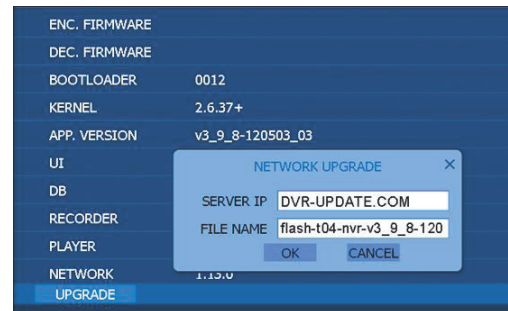
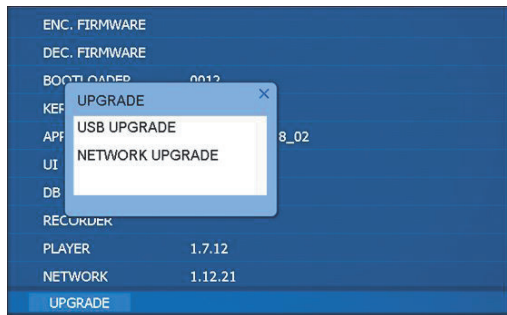
- **USER** – There are two unchangeable user IDs (ADMIN, NETUSER), to create new user or modify settings of existing users, click arrow button.
- **PASSWORD** – Initial password for each user is set '0000'. When you create a new user, make sure that you have to enter new password and do not forget the newly input password. Up to 8 digits of numbers can be used for password (EX: 123456)
- **SETUP** – Check this box then the user is authorized to go into setup menu
- **DVR FUNCTION**– Click DVR function button of REC (Recording setup), PLAY (SEARCH), BACKUP and PTZ (Control) to give each user access authority.
- **NETWORK** – Check this box then the user is authorized to access to DVR via network (Web, CMS or mobile)
- **COVERT CH** – Select covert channels by each user. Marked channels will be hidden by the user
- **TIME OUT** – When this is set to ON, LOGIN window will re-appear after entered time from any signal input. If you want to log out, you need to go to MENU and select LOG OUT like right picture.
- **MONITOR** – First select ON to give monitoring authority to each user. Then click CH button to Select monitoring channel the user can access.

5.2.7.5. UPGRADE

You can check version information of software and firmware upgrade can be done.



- **USB upgrade:** Upgrade using USB device
- **Network upgrade:** Upgrade via network



◆ USB UPGRADE

Please select USB upgrade in upgrade window

- ① Copy provided firmware file to your USB memory stick
- ② Insert USB Memory which includes Firmware into USB Port.
- ③ Enter UPGRADE button to upgrade firmware, then small windows will appear.
- ④ Please click OK Icon and the message dialogue to confirm will popup,
- ⑤ And please click OK, or CANCEL to proceed.
- ⑥ It will take some minutes to upgrade, and then DVR will be rebooted automatically after upgrade is finished.

◆ Network upgrade

Please select network upgrade in upgrade window

- ① Check out whether Server IP and FILE NAME are correct.
If shown information is wrong, correct SERVER IP and FILE NAME and press ENTER button to input new information by text input Dialog box.

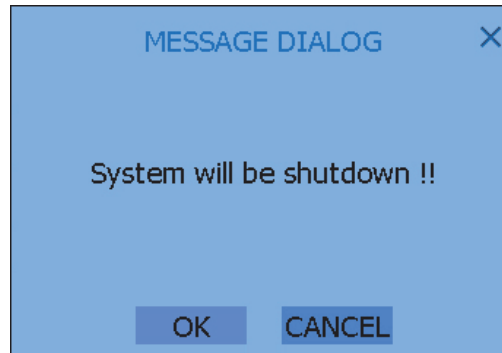
NOTE : Make sure the information of Server IP & File name through your supplier.

- ② Select OK and press ENTER button to start S/W upgrade.
After completing upgrade, the system will reboot automatically.

5.2.7.6. TURN OFF DVR

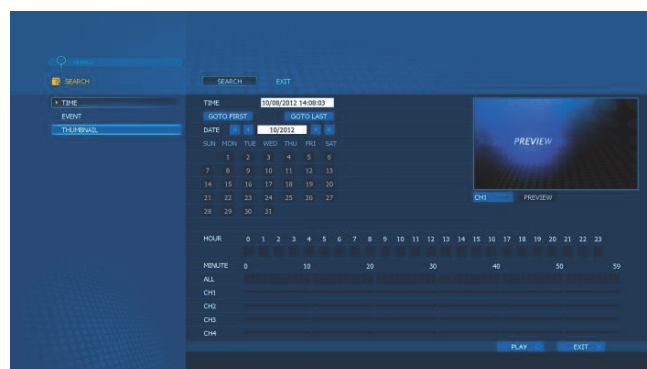
Select TURN OFF DVR and software of DVR will be shutdown.

In order to completely shut down DVR, turn off the power switch in the rear.

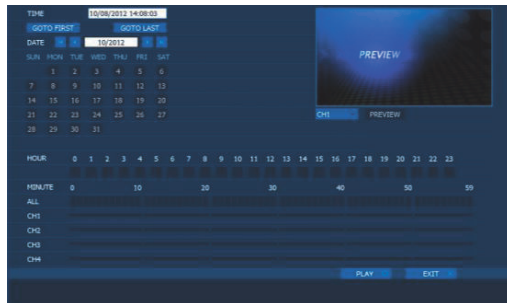


5.3. SEARCH

Time search using calendar/time bar and event search using event logs are supported.



5.3.1. SEARCH BY TIME

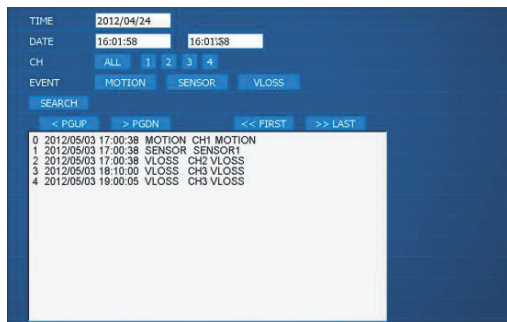


- Select date on calendar
- Select hour & minute on time bar
Data on minutes is displayed by ALL and each channel
- Click “PREVIEW” button after selecting minute and channel no. on then playback of that channel starts on the small window.
Click “PLAY” while running preview and it enlarges into full screen.
- To watch playback without preview, just click “PLAY” after selecting minute.
- GOTO FIRST/ GOTO LAST: Playback of earliest data/ latest data.

◆ NOTE:

Dates with recording data are indicated in yellow. Hour/minute with recording data are indicated in bright blue

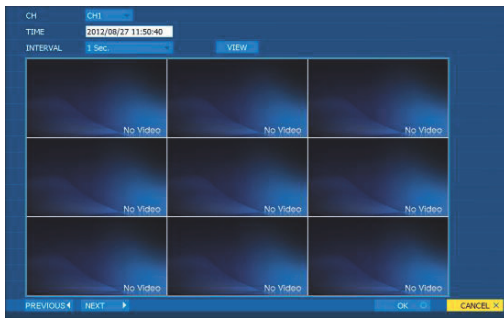
5.3.2. SEARCH BY EVENT



- Select **DATE & TIME** to get event logs
- Select CH to get event logs
- Select **EVENT TYPE** to get event logs
- Select **SEARCH** button and event log list will be written.
- <PGUP, >PGDN: Page up & down of list
- <<FIRST, >>LAST: Go to first page or last page of list
- Click an event log on list then DVR goes to the time when the event happens in search mode.

5.3.3. THUMBNAIL SEARCH

Thumbnail search is effective and quick search option. You can search recorded file of certain channel by displaying 9 screens at a time by selected time interval.



- **CH:** Select channel number to view.
- **TIME:** Select time to start “Thumbnail search”
- **INTERVAL:** Select time interval from 1 sec, 10sec to 1 minute & 1 hour.
- **VIEW:** Capture image by selected interval starting from selected time shows up
If 1 hour is selected, each screen shows by 1 hour of the same channel.
- **NEXT, PREVIOUS:** Previous or next page of recorded file by selected interval

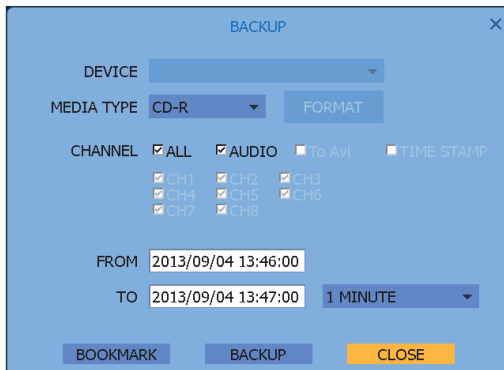
Seeing the capture image, double-click on certain screen then it will be divided in smaller interval.

If you set 10:00AM in TIME and 1 hour in INTERVAL then first screen shows 10:00AM and second 11:00AM. Double-click on second channel and it will be divided again in 9 screens by 10 minute (1 minute, 10 seconds and 1 second) starting from 11:00AM.

5.3.4. BACKUP

Recorded data can be archived in USB device or CD/DVD using backup function

First, insert USB device or CD/DVD and select backup menu from main menu or press backup button on remote control and below popup will show up.



- **DEVICE:** Select device for backup
- **CHANNEL:** Select channel(s) to archive
- **To AVI:** Data will be archived in AVI format
If unchecked “To AVI”, data will be archived in PS format and backup viewer program will be automatically copied.
- **TIME STAMP:** Insert time stamp into AVI file
- **FROM/TO:** Input starting time & ending time
Without having to input time directly, 1 minute ~ 60 minutes of backup can easily be made.
- **BOOKMARK:** Go to bookmark list that have been made in playback mode.

*Bookmark Backup

You are able to make a backup file bookmarked in playback mode by clicking “Backup icon” or delete from the list.

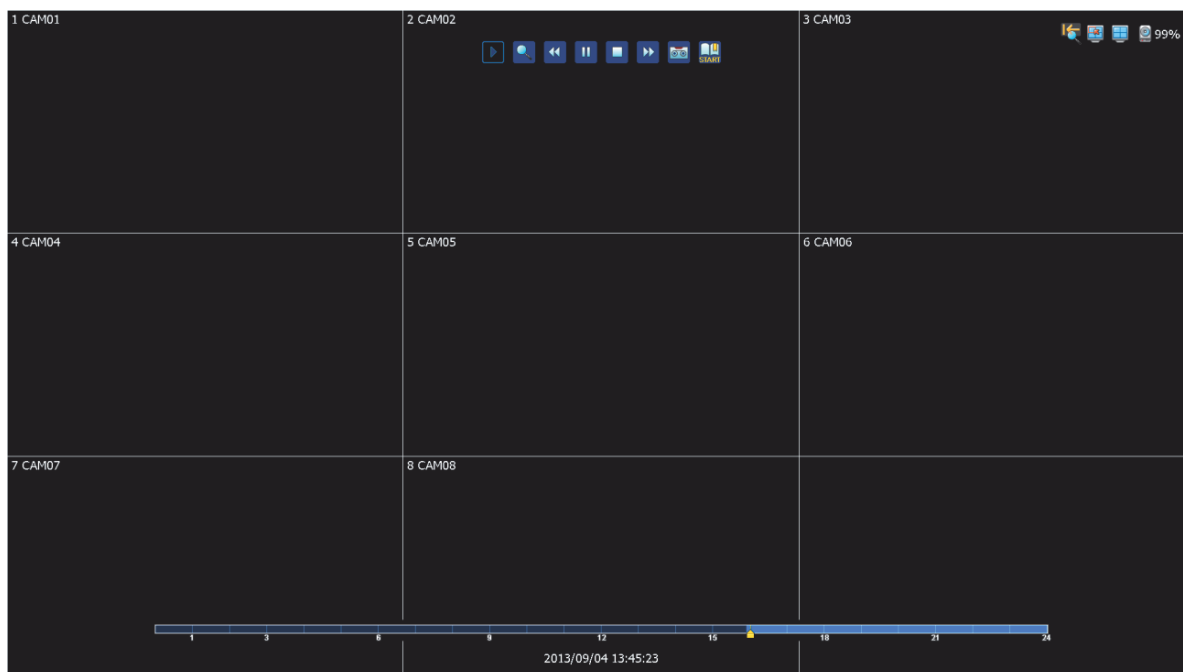


5.3.5. SEARCH MODE

When DVR is in search mode, you can play, pause, rewind & fast-forward (x2, x4, x8, x32 and x128)

If you move mouse cursor at the bottom of screen, time bar pops up and you can drag and move the time in the bar. Time bar contains 24 hours and time of recording data is indicated in brighter blue. By bookmark icon you can select starting and ending time of backup file here.

For more detailed description of icons, please refer to page 20, **4.3.2. Controlling playback using the buttons**



5.4. Other functions

5.4.1. PTZ

When you press **P/T** button of remote control or select PTZ in main menu, screen will be changed to FULL screen mode and you can control PTZ camera.

- Select another channel on the PTZ control menu or press numeric button of remote control then target camera will be changed.
- Press **◀▶▲▼** button and camera will pan to left / right or tilt up / down.
- Press **◀◀ / ▶▶** button or search / log button of remote control or click (+), (-) button and camera will zoom in or out.

- FOCUS

- + : Focus-IN.
- : Focus-OUT

AUTO : AUTO-FOCUS mode.

- IRIS

- + : Open Iris.
- : Close Iris.

IRIS : AUTO-IRIS mode.

- SPEED

- + : The control speed will increase.
- : The control speed will decrease.

- PRESET

If you want to go to a specific PRESET-position, select “GO” button.

If you want to scan PRESET-positions, select “TOUR” button

- AUTO SCAN

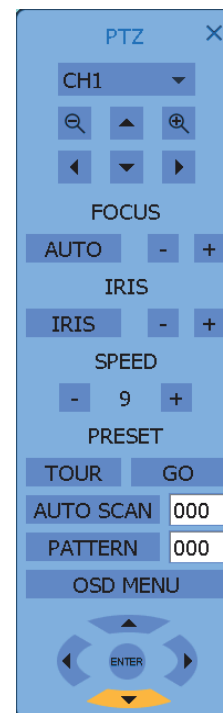
Input the auto scan number and click “AUTO SCAN” button

- PATTERN

Input the pattern number and click “PATTERN” button

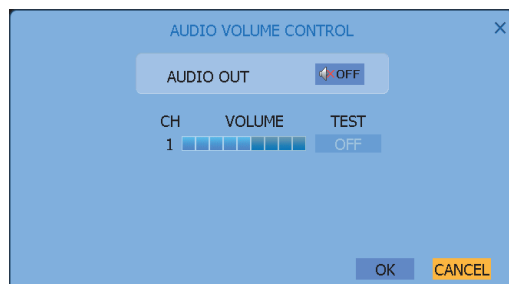
- OSD MENU and direction keys

Click “OSD MENU” button and you will go into camera OSD menu. With the direction keys below, you can move and select settings in camera OSD menu.



◆ **NOTE:** OSD Control function supports only for “PELCO-D” protocol

5.4.2. Audio

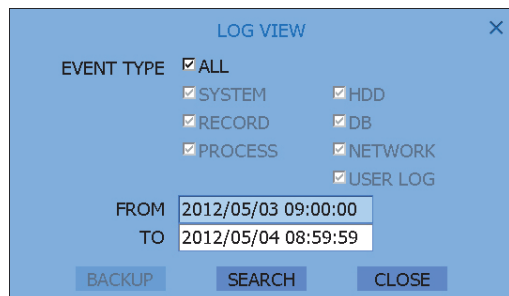


Before using this function, make sure audio in/out device has been installed correctly.

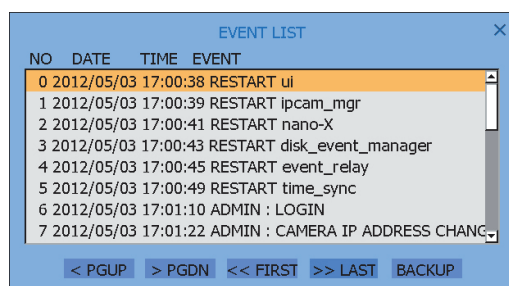
- Audio out works only in 1CH full screen mode
- Test audio by TEST ON/OFF button

5.4.3. Log view

System log status can be found or saved into USB memory to check on PC.



- **EVENT TYPE:** Select event type to see logs.
- **FROM:** Input starting time
- **TO :** Input ending time
- **BACKUP:** Save log data into USB memory
- **SEARCH:** Click SEARCH button and log list will be shown
- **EVENT LIST:** Logs of checked EVENT TYPE will be listed.



5.5. OSD OFF

Select OSD OFF then OSD (icons or time) will disappear/appear.

Please see the page 22 to get more information. [SETUP->DISPLAY->OSD]

5.6. REC

Select REC button on main menu, on remote control or on front panel. Then, all channels will record regardless of previous recording schedule setup. This function can be used when unexpected incident occurs in channels that are not recording by operator meaning panic or instant recording. One more REC makes DVR go back to the previous recording schedule setup.

- Example: While only channel 2,3 and 4 are recording by the current recording schedule, unexpected incident is happening on channel 1 so channel 1 needs to be recorded.

In this case, select REC function instantly on remote control or on front key. Then all channels will be recorded.

5.7. LOG OUT

Select LOG OUT button and DVR will go in logged out status.

You cannot control DVR and change settings of DVR in logged out status. In order to log in again, press any button of remote control or front key or click mouse button on any spot of screen.

- ◆ **NOTE:** When DVR goes in logged out status, all channel might be blocked by covert according to settings in page 39. (If USER >> MONITOR is on, all channel will be blocked by black screen in logged out status.)

Specification

MODEL		HD SDI 4CH DVR	HD SDI 8CH DVR
Compression Algorithm		Video : H.264, Audio : G726	
Operating System		Embedded Linux	
Multi-Operation		Pentaplex (Live, Recording, Playback, Backup, Network)	
Video	Input	4CH	8CH
	Input Signal	HD SDI	
Video Out	HDMI	1	
	VGA	1	
	Composite	1	
Audio	Input	1	
	Output	1 (HDMI, RCA)	
Interface	USB 2.0, RS-485	2 x USB, 1 x RS-485	
	E-SATA	1	
	Ethernet	1	
	Sensor Input	1	
	Alarm Output	1 (Relay)	
	SATA	1 x SATA HDD (Up to 3TB)	
Live	Resolution	1920 x 1080	
	Display Mode	1, 4	1, 4, 9
	Digital Zoom	Up to x 10	
Recording	Speed & Resolution	Total 60FPS(50FPS) @ 1080P or 120FPS(100FPS) @ 720P	
	Mode	Manual / Continuous / Schedule / Motion / Sensor & Pre/Post, Panic	
Playback & Backup	Speed	Fast Forward/Backward, Step Forward/Backward	
	Search	Search by Time, Calendar , Events and Thumbnail search	
	Backup Device	USB Memory Stick/HDD & Backup by Network	
	Backup File Format	AVI (With or Without Timestamp), PS (Playback in Backup-Viewer)	
Events & Alarm		Email & FTP Notification / Alarm-out / Buzzer for Events & Video Loss Warning Message & Buzzer for HDD Over-Temperature	
Network	Transmission	Video Dual-Stream (Local recording & Network Transmission) Bandwidth adjustable (64/128/256/512Kbps, 1/2/4/10Mbps, Unlimited)	
	C.M.S	6 Monitors, Live , Event Manager, E-Map, Playback, Backup , PTZ, DVR Setup	
	Web (I.E)	Live Monitoring, Playback, Snapshot and PTZ Control	
Operating Temperature and Humidity		5~40 °C / 20~80% RH	
Power and Dimension (WxDxH)		DC12V, 3.3A and 380 x 342 x 67, Packing: 450 x 425 x 170 (mm)	

Trouble shooting

In the event of a product malfunction, please check the following list for a usual and possible solution before requesting service.

1. Product is not turned on.

Check out whether the power is being supplied well.

2. Product continues displaying "Loading" or "Starting UI...."

Check the product can boot without HDD

If product continues displaying "Loading" or "Starting UI...." Without HDD, you can try emergent upgrade.

Please refer method of factory default in provided CD

3. Camera video is not displayed on monitor

Check the video input / output connections on the product rear panel.

Check the camera status and the connection between camera video/power cable.

Check if **CAMERA STATUS** in menu is **SHOW**.

4. I cannot hear Audio

Check the audio input/output connections on the rear panel of DVR.

Audio works only in full screen mode.

5. I can't stop recording by remote controller or REC button

Check out that RECORD CONTINUOUS of REC OPTION of MENU is OFF.

6. I can't find previous recording data.

The product operates automatically **OVERWRITE** function. It deletes the oldest recording data to overwrite when HDD is full.

7. Product is not compatible with external USB device.

Please check if USB memory stick is in protection (password) function. Protection function of USB device should not be discharged.

8. I can't connect to network.

Check if network of menu is setting correctly such as Network port, ID, Password

Check if your internet line is available. Please ask your service provider to check internet line.

If the problem you are experiencing persists or is not mentioned above, please contact service center or your local distributor.